

A KEY TO THE GENERA OF AMERICAN BIDESSINE
WATER BEETLES, WITH DESCRIPTIONS OF
THREE NEW GENERA

(Coleoptera: Dytiscidae, Hydroporinae)¹

FRANK N. YOUNG

The many tiny species of the tribe Bidessini (Dytiscidae, Hydroporinae) are in great need of revision. At present, however, the group is in such a confused state and the faunas of great areas of the world are so poorly known that any revisionary work must be considered preliminary.

The following key largely based on notes made by the writer while a Guggenheim Fellow at the British Museum (Natural History) in London, is presented in the hope that it may encourage further collecting and study of this interesting group of aquatic insects.

In the American literature many species are placed in the genus *Bidessus* Sharp (1882), but this name actually covers a group of genera some of which are extremely different from typical *Bidessus*. Much of the difficulty lies in the small size of the insects (1.2 to 3.5 mm. in length) which makes their study difficult. In some groups the male genitalia have proven to be of great value in separating species and show excellent correlation with some generic groups.

The Bidessini and Pachydrini are associated by the fusion of the coxal plates to the abdominal sternites so that the under surface of the body from the front of the metasternum to the hind border of the third abdominal segment consists of one rigid piece. This is seen in typical form in all the American genera except *Hydrodessus*. In the Bidessini, however, the middle coxae are not separated by the intercoxal process of the metasternum which does not reach the metasternal fork and the posterior tibiae are slender, usually curved at the base and expanded toward the apex so that they appear club-like. The coxal lines are generally distinct and longer than the prosternal process. In the Bidessini, Pachydrini, and Hyphydrini the articular cavities of the hind coxae are not contiguous and not protected by the coxal processes so they open on the under surface of the coxae and are separated by the coxal processes which are usually adpressed to the level of the abdominal sternites (Sharp, 1882). The Bidessini thus form a distinctive group of hydroporine dytiscids although some genera show modifications of the tarsi not characteristic of the subfamily Hydroporinae. The many species show varying ecological modifications, and the group as a whole occupies the very small aquatic predator niche in the marginal zone and psammon of freshwater.

The characters which have been used for the separation of genera are not all of equal value or reliability. In the following key, I have attempted to evaluate these characters by placing emphasis on those which seem least subject to variation or differences in interpretation, but I have included summaries of other characters for the purpose of comparison. The key may be used in simplified form (à la Guignot) by ignoring all except the capitalized words or phrases.

¹Contribution No. 798 from the Zoological Laboratories of Indiana University, aided by grants from the U. S. Public Health Service and National Science Foundation.

KEY TO AMERICAN GENERA OF BIDESSINI

- 1. HEAD WITH A TRANSVERSE CERVICAL STRIA OR SUTURE BEHIND THE EYES..... 2
- HEAD WITHOUT A CERVICAL STRIA..... 9

- 2. PRONOTUM WITH IMPRESSED STRIAE AT THE BASE ON EITHER SIDE OF MIDDLE (and often with corresponding striae on bases of elytra)..... 3

PRONOTUM AND ELYTRA WITHOUT IMPRESSED OR INCISED STRIAE (at most with vaguely impressed groups of punctures); CLYPEUS DISTINCTLY MARGINED, but not upturned in front; elytra with suture not thickened and without sutural striae; EPIPLEURA WITH A BASAL EXCAVATION LIMITED BEHIND BY A TRANSVERSE CARINA: prosternal process with apex elongate, oval, broadly margined, tip rounded; metasternal fork broad, shallow, with lateral margins continuous with those of middle coxal cavities, not grooved medially; inner lamella of hind coxa with a longitudinal median groove terminating at posterior edge of metasternum; coxal lines strongly divergent anteriorly; anterior and middle tarsi pseudotetramerous, the 3rd segment distinctly bilobed; male genitalia with parameres complex, jointed and aedeagus simple; body form ovate to elongate oval and acuminate behind; dorsum moderately coarsely, regularly punctate; elytral markings fasciaform or lacking. South American species found in lenitic and lotic situations. (Genotype *Bidessus* (*Hemibidessus*) *conicus* Zimmermann, 1921).....

HEMIBIDESSUS Zimmermann

- 3. BASAL PRONOTAL AND ELYTRAL STRIAE DISTINCT, IMPRESSED OR INCISED (or pronotal stria seemingly continued by a distinct ridge or carina on the elytron)..... 4

PRONOTAL STRIAE DISTINCT, BUT ELYTRA WITHOUT BASAL, SUTURAL, OR ACCESSORY STRIAE, at most a basal stria vaguely indicated by a few impressed punctures; CLYPEUS THICKENED ANTERIORLY WITH TWO SMALL TUBERCLES AT MIDDLE; EPIPLEURA WITH A BASAL EXCAVATION LIMITED BEHIND BY AN OBLIQUE CARINA; prosternal process with apical portion margined, broader posteriorly than in front, not on same plane as metasternum, the tip bent (down) to make contact with the metasternal fork; metasternal fork broad, shallow, the lateral margins continuous with those of middle coxal cavities; inner lamella of hind coxae with narrow longitudinal median groove terminating at posterior edge of metasternum; coxal lines strongly divergent, then recurved before reaching edge of metasternum; anterior and middle coxae pseudotetramerous, 3rd segment bilobed; male genitalia with parameres simple, elongate, unjointed and aedeagus moderately modified; body form ovate, somewhat flattened, acuminate behind; surface highly polished; elytra without pattern, usually yellowish brown to dark red brown. South American species with some extending into the Antilles,

Florida, and Mexico. (Genotype *Hyphydrus acuminatus* Steinheil, 1869).....BRACHYVATUS Zimmermann, 1919.

4. CLYPEAL MARGIN THICKENED ANTERIORLY, UPTURNED, TUBERCULATE, OR DISTINCTLY RIMMED..... 5
 CLYPEAL MARGIN NOT THICKENED OR ONLY FEEBLY SO, NOT MARGINED, UPTURNED, TUBERCULATE, OR RIMMED.. 6

5. BASAL PRONOTAL STRIAE CONNECTED BY AN IRREGULAR TRANSVERSE GROOVE; elytral stria seemingly extended onto disk of elytra as a distinct ridge or carina; ELYTRA WITH SUTURE NOT THICKENED AND WITHOUT SUTURAL STRIAE; CLYPEAL MARGIN THICKENED, TRUNCATE, UPTURNED WITH TWO SEPARATED TUBERCLES; epipleura simply excavated; PROSTERNAL PROCESS WITH APICAL PORTION IN NEARLY SAME PLANE AS METASTERNUM, ELONGATE, NARROW, DISTINCTLY MARGINED AND MEDIALY GROOVED, FEEBLY ACUMINATE; METASTERNAL FORK BROAD, MARGINED ANTERIORLY, WITH LATERAL MARGINS CONTINUOUS WITH THOSE OF MIDDLE COXAL CAVITIES, BUT ALSO BIFURCATE AND EXTENDED POSTERIORLY ON THE MID-METASTERNUM ABOUT $\frac{1}{3}$ DISTANCE TO COXAE BEFORE BEING LOST IN THE COARSE PUNCTATION; inner lamella of hind coxae with coarse punctures between the coxal lines obscuring median groove; coxal lines strongly divergent anteriorly; male genitalia with parameres broad, jointed and aedeagus complexly beaked or shaped like a bird's head; body form broadly ovate; elytra and venter with very coarse, sometimes confluent punctures; elytral pattern fasciate-maculate. South American, Antillean, Mexican, Central American, and southern United States species found in the sand margins of standing or running water. (Genotype *Anodocheilus maculatus* Babington, 1841).....ANODOCHEILUS Babington, 1841

BASAL PRONOTAL STRIAE DISTINCT, BUT AREA BETWEEN THEM ESSENTIALLY FLAT; elytral striae distinct and in some species seemingly extended onto the disk as an irregular ridge; ELYTRAL SUTURE THICKENED WITH PUNCTURES FORMING A MORE OR LESS DISTINCT SUTURAL STRIA OUTSIDE THE THICKENING; CLYPEUS WITH ANTERIOR EDGE UPTURNED, PROJECTING IN FRONT, ALWAYS FORMING A DISTINCT ANGLE WITH UPPER AND LOWER SURFACES AND USUALLY FORMING A DISTINCT RIM; epipleura with a distinct basal excavation, but without a distinct transverse carina behind; PROSTERNAL PROCESS WITH APICAL PORTION NOT ON SAME PLANE AS METASTERNUM, ELONGATE, NARROW, MARGINED WITH A MEDIAL GROOVE, THE TIP MODERATELY ACUTE AND BENT (DOWN) TO MAKE CONTACT WITH METASTERNAL FORK; METASTERNAL FORK RATHER NARROW, LATERAL MARGINS CONTINUOUS WITH THOSE OF MIDDLE COXAL CAVITIES AND FEEBLY BIFURCATING TO EXTEND POSTERIORLY ON MID-METASTERNUM (OR

METASTERNAL FORK WITH SHALLOW MEDIAN GROOVE EXTENDING ABOUT $\frac{1}{3}$ DISTANCE TO COXAL MARGIN); inner lamella of hind coxae with a shallow median groove extending to posterior edge of metasternum (or nearly flat with only a vague median groove); coxal lines sharply incised, moderately to strongly divergent anteriorly; anterior and middle tarsi pseudotetramerous, 3rd segment distinctly bilobed; male genitalia with parameres simple, jointed and aedeagus simple; body form ovate, usually strongly convex; surface smooth, finely or coarsely, but sparsely punctuate or matte with close fine punctures (latter condition usually associated with elytral ridges or suggestion of plicae); elytral color pattern fasciate, maculate, or reduced. Species of the western United States and northern Mexico extending into Central America mainly in lotic situations in the mountain regions. (Genotype *Hydroporus plicipennis* Crotch, 1873).....

NEOCLYPEODYTES n. genus

6. TARSI CLEARLY 5-SEGMENTED, THE 4TH SHORT BUT NOT CONCEALED BY LOBES OF 3RD SEGMENT; MALE AND FEMALE DIMORPHIC, MALE WITH VENTER CONCAVE AND MIDDLE TIBIAE CURVED FOR CLASPING FEMALE; basal pronotal and elytral striae distinct, often deeply impressed; elytra with suture feebly thickened, but without indication of sutural striae or accessory striae; epipleura with base excavated, but without a transverse carina; prosternal process with apical portion curved, not on same plane with metasternum, elongate, oval, feebly margined, the tip moderately acuminate; metasternal fork narrow, curving (down) to meet apex of prosternal process (particularly in males), strongly margined laterally with margins bifurcating and continuing on mid-metasternum and curving outward to join coxal lines so that a distinct ventral platform is formed; inner lamella of hind coxae with longitudinal median groove extending onto metasternum; coxal lines parallel or slightly converging anteriorly; male genitalia with parameres complex, jointed and aedeagus elaborately modified suggesting in outline a boot or an extended leg with shoe; body form elongate, pronotum and elytra moderately discontinuous; surface often distinctly hairy and elytra iridescent, particularly in females; elytral color pattern often indistinct, fasciate. South American, Antillean, Central American, Mexican, and eastern United States species usually found in lenitic situations. (Genotype *Bidessonotus obtusatus* Régimbart, 1895).....

BIDESSONOTUS Régimbart, 1895.

TARSI PSEUDOTETRAMEROUS, THE 4TH SEGMENT CONCEALED IN THE LOBES OF THE 3RD; body form elongate, oval, pronotum and elytra usually continuous so outline from above is regular

7

7. APICAL PORTION OF PROSTERNAL PROCESS ELONGATE, NARROW, DISTINCTLY MARGINED, MEDIALY CHANNELLED; NOT STRONGLY ACUMINATE; COXAL LINES DIVERGENT ANTERIORLY; COXAL PROCESSES (POSTCOXAL LAMINA) NOT STRONGLY INCISED AT MIDDLE.....

8

APICAL PORTION OF PROSTERNAL PROCESS TRIANGULAR (SPEAR SHAPED), ACUMINATE BEHIND, NOT MARGINED OR CHanneled, FEEBLY CONCAVE AND PUBESCENT; COXAL LINES PARALLEL OR FEEBLY DIVERGENT ANTERIORLY; COXAL PROCESSES TRIANGULARLY INCISED AT MIDDLE; THE LATERAL LOBES ROUNDED AND CLOSELY ADPRESSED AND FUSED TO VENTRITE; anterior and middle tarsi pseudotetramerous, but 3rd segment not strongly bilobed; PRO-TIBAL SETAE STRONG, OVERLAPPING TARSI IN REPOSE; body form ovate, pronotum and elytra continuous; dorsum highly polished, moderately coarsely but sparsely punctate; elytral color pattern fasciate (Cervical stria present; basal pronotal and elytral striae distinct; no elytral sutural or accessory striae; clypeus feebly thickened anteriorly, not margined, front slightly impressed on either side of middle; metasternal fork narrow, lateral margins not bifurcate, continuous with margins of middle coxal cavities; epipleura with basal excavation, but no transverse carina behind; inner lamella of hind coxae with median groove ending at posterior edge of metasternum; anal sternite narrow, impressed at sides). A single South American species of unknown habitat. (Genotype *Bidessus atomarius* Sharp, 1882).....MICRODESSUS, n. genus

8. Basal pronotal and elytral striae distinct, rarely elytral striae reduced so that they are present only on the very base; ELYTRA WITH SUTURAL STRIAE LACKING AND WITHOUT ACCESSORY DISCAL STRIAE OF IMPRESSED PUNCTURES; ANAL STERNITE NARROW, IMPRESSED ON EITHER SIDE; male genitalia with parameres simple, slender, jointed and aedeagus simple; body form elongate oval to broadly oval; elytral color pattern usually fasciate, marbled, or reduced. North and South American species differing from Old World *Bidessus* primarily in lack of a distinct sutural stria on elytra. Distributed from Alaska to Patagonia. (Genotype *Hydroporus affinis* Say, 1823).....LIODESSUS Guignot, 1939

Basal pronotal and elytral striae distinct, but elytral stria usually short; ELYTRA WITHOUT SUTURAL STRIAE BUT WITH DISTINCT ACCESSORY STRIAE OF IMPRESSED PUNCTURES BETWEEN SUTURE AND BASAL STRIAE; ANAL STERNITE BROAD, NOT IMPRESSED AT SIDES; male genitalia with parameres simple, slender, jointed but aedeagus often complexly modified; body form elongate oval, often somewhat obtuse anteriorly and posteriorly; elytral color pattern lineate, sometimes obfuscated. (Cervical stria distinct; clypeus feebly thickened anteriorly, not margined; epipleura with basal excavation but no transverse carina behind; venter much as in *Bidessus* and *Liodes*). South and Central American and Mexican species, with a few species in the southern United States. (Genotype *Hydroporus pullus* LeConte, 1855).....NEOBIDESSUS n. genus

9. BASAL PRONOTAL AND ELYTRAL AND ELYTRAL SUTURAL STRIAE LACKING, AT MOST REPRESENTED BY A FEW

IMPRESSED PUNCTURES; MALE GENITALIA WITH PARAMERES SIMPLE, ELONGATE, UNJOINTED..... 10

AT LEAST BASAL PRONOTAL STRIAE PRESENT..... 11

10. METASTERNAL FORK WITH LATERAL MARGINS BIFURCATE, EXTENDING BACK ALONG MID-METASTERNUM AND SOMETIMES DISTINCTLY RECURVING TO MEET THE INCISED COXAL LINES TO DIFFERENTIATE A DISTINCT VENTRAL PLATFORM; (VENTRAL PLATFORM DISTINCT, BUT MARGIN NOT ALWAYS COMPLETE); COXAL LINES PARALLEL OR FEEBLY DIVERGENT ANTERIORLY; anterior and middle tarsi pseudotetramerous, 3rd segment distinctly bilobed; male genitalia with parameres simple, slender, unjointed and aedeagus simple; body form elongate oval, often strongly constricted between pronotum and elytra so outline is very discontinuous; elytral color pattern fasciate; (Prosternal process variable, sometimes with apex broad, unmarginated, flattened, with tip rounded, sometimes narrow, elongate, strongly margined, and deeply grooved with tip moderately acuminate; clypeus simple or feebly thickened, not margined; epipleura deeply excavate at base without transverse carina; some species with an accessory lateral carina on base of elytra above the epipleura; inner lamella of hind coxa with narrow median, longitudinal groove extending onto metasternum, sometimes extending to metasternal fork; dorsum variably punctate). A complex of rare South American species usually found in the margins of lotic situations. (Genotype *Hydrodessus siolii* J. Balfour-Browne, 1953).....

HYDRODESSUS J. Balfour-Browne, 1953
(Including *Brinkius* Guignot, 1957)

METASTERNAL FORK WITH LATERAL MARGINS CONTINUOUS WITH THOSE OF MIDDLE COXAL CAVITIES, NOT BIFURCATE AND NOT EXTENDING BACK ON MID-METASTERNUM; NO VENTRAL PLATFORM; COXAL LINES SLIGHTLY DIVERGENT ANTERIORLY; anterior and middle tarsi pseudotetramerous, but 3rd segment feebly bilobed; male genitalia with parameres simple, unjointed, but aedeagus sometimes complex, double; body form ovate, constricted between pronotum and elytra; ELYTRAL COLOR PATTERN OF DISTINCT DARK LINES RESEMBLING HIEROGLYPHICS ON A LIGHT YELLOW OR BROWN BACKGROUND; (Prosternal process with apical portion irregularly triangular (spear-shaped), broadly and irregularly margined, medially concave, moderately acuminate behind; clypeus feebly thickened anteriorly without distinct margin, feebly tuberculate over antennae in some species; epipleura with base excavated, but no transverse carina behind; inner lamella of hind coxae with narrow, medial, longitudinal groove extending onto metasternum; dorsum finely and evenly punctate). South American species found principally in the margins of lotic situations. (Genotype *Bidessus cruciatus* Régimbart, 1903).....

HYPODESSUS, Guignot, 1939
(Including *Brachybidessus* Gschwendtner, 1954)

11. BASAL PRONOTAL AND ELYTRAL STRIAE PRESENT; ANTERIOR AND MIDDLE TARSI WITH 4TH SEGMENT SMALL, BUT 3RD SEGMENT FEEBLY BILOBED; male genitalia with parameres simple, slender, jointed and aedeagus simple or complexly modified..... 12
- BASAL PRONOTAL STRIAE USUALLY DISTINCT, BUT ELYTRA WITHOUT BASAL, SUTURAL, OR ACCESSORY STRIAE; ANTERIOR AND MIDDLE TARSI PSEUDOTETRAMEROUS, 3RD SEGMENT STRONGLY BILOBED; male genitalia with parameres broad or complex and jointed and aedeagus simple..... 13
12. EYES PRESENT, WELL-DEVELOPED, PIGMENTED; BODY PIGMENT WELL-DEVELOPED; ELYTRAL COLOR PATTERN FASCIATE OR MARBLED; elytra with or without impressed sutural striae; metathoracic wings normal in most species, but reduced or lacking in some; elytra usually smooth, but sometimes with elongate setae, hairy; venter much as in *Bidessus* and *Liodes*, but metasternal fork may be grooved anteriorly in some species; body form ovate or elongate oval, pronotum and elytra usually continuous; male genitalia with parameres simple, slender, jointed and aedeagus simple or complexly modified. Many African species and a number in the eastern United States and northern Mexico extending into Central America and possibly South America. (Genotype *Hydroporus lacustris* Say, 1823).....
- UVARUS Guignot, 1939
- EYES LACKING, NOT PIGMENTED; BODY PIGMENT AND COLOR PATTERN REDUCED; elytra with sutural stria of impressed punctures; metathoracic wings reduced, strap-like; venter, body form, and other structures much as in *Uvarus*. A single cavernicolous species from Venezuela. (Genotype *Trogloguignotus concii* Sanfilippo, 1958)
- TROGLOGUIGNOTUS Sanfilippo, 1958
13. BASAL PRONOTAL STRIAE USUALLY DISTINCT, DEEPLY IMPRESSED, BUT SOMETIMES REDUCED, ALWAYS CONNECTED BY AN IRREGULAR TRANSVERSE GROOVE; clypeus thickened but not margined; epipleura with basal excavation, but without transverse carina behind; prosternal process with apical portion elongate, rather broad, coarsely margined, medially concave or channeled, with a peculiar medial extension which contacts metasternal fork; metasternal fork with lateral margins bifurcate, extending backward on midmetasternum, and sometimes vaguely extending to join the coxal lines and form a rough ventral platform; inner lamella of hind coxae with a median longitudinal groove extending onto metasternum; coxal processes barely passing a line drawn between the coxal lobes, not closely adpressed to ventrite but apparently fused with it; coxal lines moderately divergent anteriorly; male genitalia with parameres broad at base and with apex much as in *Hydroporus*, aedeagus simple; body form broadly ovate, very convex, pronotum and elytra moderately discontinuous; dorsal punctation usually coarse and regular; elytral color pattern variable, usually fasciate or reduced.

South American species of unknown habitat. (Genotype *Amarodytes percosioides* Régimbart, 1900).....AMARODYTES Régimbart, 1900

BASAL PRONOTAL STRIAE FINE, SHARPLY INCISED, OBLIQUE, NOT CONNECTED BY A TRANSVERSE GROOVE; clypeus not thickened; epipleura shallowly excavated at base without transverse carina; prosternal process with apical portion broad, feebly concave and with margin indefinite, sides nearly parallel then tip abruptly acuminate; metasternal fork broad with lateral margins continuous with those of middle coxal cavities, not bifurcate or extending onto mid-metasternum, no ventral platform indicated; inner lamella of hind coxa with a narrow median longitudinal groove ending at posterior edge of metasternum; coxal lines nearly parallel; coxal processes extending beyond a line drawn between coxal lobes, but closely adpressed and fused to ventrite; male genitalia with parameres complex, jointed and aedeagus broad, but relatively simple; body form elongate oval, somewhat flattened, pronotum and elytra moderately discontinuous; dorsum finely punctate, elytra usually with numerous setae, hairy, iridescent as in *Bidessonotus* in both sexes; elytral color pattern reduced or fasciate. South and Central American species found in lenitic situations, but some possible living in bromeliads. (Genotype *Bidessodes semistriatus* Régimbart, 1900).....BIDESSODES Régimbart, 1900

RELATIONSHIPS OF THE AMERICAN GENERA OF BIDESSINI

The relationships of the American genera of Bidessini to each other and to the Old World genera is still largely a matter of conjecture. There has obviously been considerable convergence in these small beetles, and some of the genera may be more distantly related than their general morphology suggests.

The presence or absence of a cervical stria back of the eyes is a character of considerable importance as was emphasized by Guignot. Its presence brings together *Hemibidessus*, *Brachyvatus*, *Anodocheilus*, *Neoclypeodytes*, *Microdessus*, *Liodessus*, and *Neobidessus* in what appears to be a fairly natural group. *Bidessonotus*, however, is apparently an ancient and specialized group possibly related to some of the Australian Bidessines.

Liodessus and *Uvarus* are superficially very similar except for the lack of the cervical stria in the latter, but the genitalia suggest greater differences than the external characters. *Liodessus* differs from the Old World *Bidessus* (s. str.) primarily in the absence of a sutural stria. Guignot placed considerable emphasis on this character, but a sutural stria in *Hydroporus* and some other genera is adventitious occurring sometimes in females only and sometimes in only some members of a series of the same species from a single locality. Thus the differentiation of *Liodessus* from the Old World *Bidessus* (s. str.) on this character alone does not seem very satisfactory. However, a sutural stria is consistently present in African members of *Bidessus* (with one exception) and consistently absent in American species of *Liodessus* so that perhaps we can place more reliance on this character in this group.

Hemibidessus appears to be the most primitive of the American genera with a cervical stria. *Brachyvatus* is a specialized form whose relationships are some-

what obscured by its ecological adaptations to a special habitat. *Neoclypeodytes* appears to be close to the protobidessus stock and probably represents something like the stock from which both the Old World *Bidessus* (s. str.) and *Clypeodytes* Régimbart were evolved. *Anodocheilus* seems to be a New World derivative of *Neoclypeodytes* which has become specialized for life in sand at the edge of water. *Liodessus* is probably a direct derivative of the Old World *Bidessus* (s. str.), but *Neobidessus* seems to be more primitive and the accessory discal stria might be interpreted as a sutural stria widely separated from the suture. *Microdessus* is probably an offshoot of *Liodessus*.

The remaining genera characterized by the lack of a cervical stria do not appear to form a homogenous group. *Amarodytes* is seemingly primitive, and may derive separately from the *Hydroporus* stock. It is superficially closer to *Hemibidessus* than to *Uvarus*.

Hydrodessus and *Hypodessus* are separated from other American Bidessines by the unjointed parameres of the male genitalia and other characters. Both lack the typical pronotal and elytral striae so characteristic of most of the others. Balfour-Browne (1953) even hesitates to place *Hydrodessus* in the Bidessini. The sum total of characters in both these genera, however, seems to point to their being specialized forms which differentiated early in the evolution of the group.

Hydrodessus may, in the present concept, be complex. I have not been able to examine enough members of this complex to decide whether the differences in prosternal process and the accessory epipleural ridge should be considered of greater importance, or whether *Brinkius* of Guignot should be accorded recognition.

Uvarus and *Trogloguignotus* are obviously related to African species of *Uvarus*. In *Uvarus*, however, a sutural stria may be present in the American forms. It is adventitious in the genotype, but seems always to be present in *U. spretus* (Sharp) from Mexico although the latter is in other characters including the genitalia very close to the genotype, *U. lacustris* (Say). Other Mexican *Uvarus* also have a sutural stria. Following Guignot's concept we would have to place these in *Guignotus* Houlbert, but comparison of the genotype of that genus with the American species convinces me that the resemblances are superficial and the American species should be referred to *Uvarus* as here redefined.

Bidessodes is another genus apparently not closely related to any of the other American genera and probably represents an ancient and specialized group. It superficially resembles *Bidessonotus*, but is clearly not closely related.

REFERENCES CITED

- BABINGTON, C. C. 1841. Dytiscidae Darwinianae; or, descriptions of the species of Dytiscidae collected by Charles Darwin, Esq., M.A. Sec. G.S.&C., in South America and Australia, during his voyage in H. M. S. Beagle. Trans. Ent. Soc. London, III, pp. 1-17.
- BALFOUR-BROWNE, J. 1953. *Hydrodessus* gen. n. *Hydroporinarum* (Coleoptera, Dytiscidae). Proc. Royal Ent. Soc. London (B) 22: 55-56, 1 fig.
- CROTCH, G. R. 1873. Revision of the Dytiscidae of the United States. Trans. Amer. Ent. Soc., 4: 383-424.

- GUIGNOT, F. 1939. Contribution à l'étude des Bidessus. Bull. Soc. d'Étude des Sci. Natur. de Vaucluse, 10: 51-61, 10 figs.
1957. Contribution à la connaissance des Dytiscides Sud-Américains (Coleopt.) Rev. franç. d'Ent., 24: 33-45, 10 figs.
- GSCHWENDTNER, L. 1954. Dytiscidae (Col.) in Beiträge zur Fauna Peru. Nach der Ausbeute der Hamburger Südperu-Expedition 1936, anderer Sammlungen, wie auch auf Grund von Literaturangaben. Band IV. (Fischer, Jena), pp. 109-115, 24 figs.
- LECONTE, J. L. 1855. Analytical table of the species of Hydroporus found in the United States, with descriptions of new species. Proc. Acad. Nat. Sci. Phila., 7: 290-299.
- REGIMBART, M. 1895. Dytiscides trouvés dans les tabacs par les soins de M. Antoine Grouvelle. Ann. Soc. Ent. France, 64: 317-348, 1 pl.
1900. Sur quelques Dytiscides nouveaux de l'Amérique Méridionale. Ann. Mus. Civ. Stor. Nat., Genova, 40: 524-530.
1903. Liste des Dytiscidae & Gyrinidae recueillis par le Dr. Philippe Silvestri dans l'Amérique méridionale de 1898 a 1900. Bull. Soc. Ent. Italiana, 35: 46-74.
- SANFILIPPO, N. 1958. Descrizione di *Trogloguignotus concii* n. gen. n. sp. di Dytiscidae freatobio. Ann. Mus. Civ. Sto. Nat. Genova, 70: 159-164, 2 figs.
- SAY, T. 1823. Descriptions of insects of the families Carabici and Hydrocanthari of Latreille, inhabiting North America. Trans. Amer. Philos. Soc. (New Series), 2: 1-109.
- SHARP, D. 1882. On aquatic carnivorous Coleoptera or Dytiscidae. Sci. Trans. Royal Dublin Soc. (Ser. 2), 2: 179-1003, 12 pls.
- STEINHEIL, E. 1869. Symbolae ad historiam coleopterorum Argentinae meridionalis . . . Att. Soc. Italiana Sci. Nat., 12: 238-260 (Centuria I.)
- ZIMMERMANN, A. 1919. Die Schwimmkäfer des deutschen entomologischen Museums in Berlin-Dahlem. Arch. für Natrug., Abt. 12, 83: 68-249, 2 pls., 21 figs.
- SUDAMERIKANISCHEN 1921. Beiträge zur Kenntnis der südamerikanischen Schwimmkäferfauna nebst 41 Neubeschreibungen. Arch. für Naturg. (Abt. A, Heft 3), 87: 181-206.
-

NOTICE

The Entomological Society of New South Wales was founded in 1862. Its magazine, the Transactions, lasted for only two volumes, 1866 and 1873. The Society ceased to function after that and for all practical purposes was succeeded by the Linnean Society of New South Wales. However, in 1953 a new society specializing in entomology was formed; it eventually took the name The Entomological Society of Australia (N.S.W.). The Society has recently begun publication of the Journal of the Entomological Society of Australia (N.S.W.). The periodical is primarily interested in general entomology (including taxonomy) and economic entomology, and naturally Coleoptera will take a large share of each issue; it is edited by C. E. Chadwick. Subscriptions should be addressed to the Society at P. O. Box 22, Five Dock, Sydney, New South Wales; the price of volume 1 (1964) is \$ 2.00, of volume 2 (1965) and succeeding volumes is \$ 3.00 (Australian dollars).

- T. J. Spilman